

IN THE SPECIFICATION:

On page 1, after the title, insert the following heading:

BACKGROUND OF THE INVENTION

On page 3, after line 17, please add the following heading:

SUMMARY OF THE INVENTION

On page 4, lines 5-17, please amend the paragraph to read as follows:

This objective is achieved by a secondary ion mass spectrometer, and by the concomitant ion source based on the above-mentioned overall concept ~~of Claims 1 or 6~~, in which the liquid metal film consists of pure Bismuth, or of a Bismuth alloy with low melting point, whereby a Bismuth ion mixed beam is emittable from the ion emitter under the influence of an electric field. From this mixed beam, one of several types of Bismuth ions, whose mass comprises a multiple of the mono-atomic, singly- or multiply-charged Bismuth ions  $\text{Bi}_1^{p+}$ , may be filtered out using a filtering

device as a mass-pure ion beam that consists exclusively of ions of the type  $\text{Bi}_n\text{P}^+$  for which  $N \geq 2$  and  $p \geq 1$ , and  $n$  and  $p$  are natural numbers.

On page 7, delete lines 1-2 and insert the following paragraph and heading:

~~Essential characteristics, advantages, and design principles will be explained using Figures, which show:~~

For a full understanding of the present invention, reference should now be made to the following detailed description of the preferred embodiments of the invention as illustrated in the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

On page 7, after line 12, please insert the following heading and paragraph:

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

The preferred embodiments of the present invention will now be described with reference to Figs. 1-3 of the drawings.

Identical elements in the various figures are designated  
with the same reference numerals.

On page 12, after the last line, insert the following  
paragraph:

There has thus been shown and described a novel mass  
spectrometer and liquid-metal ion source for a mass  
spectrometer of this type which fulfills all the objects and  
advantages sought therefor. Many changes, modifications,  
variations and other uses and applications of the subject  
invention will, however, become apparent to those skilled in  
the art after considering this specification and the  
accompanying drawings which disclose the preferred  
embodiments thereof. All such changes, modifications,  
variations and other uses and applications which do not  
depart from the spirit and scope of the invention are deemed  
to be covered by the invention, which is to be limited only  
by the claims which follow.